



Transport Refrigeration Unit ATCM Tutorial

Revised 1-20-2009

California Environmental Protection Agency
 Air Resources Board

1

- These tutorial slides cover the California Air Resources Board's (ARB) Transport Refrigeration Unit (TRU) Airborne Toxic control Measure (ATCM).
- This regulation is required by California state law.

Overview

- ◆ Terminology
- ◆ Background
- ◆ TRU ATCM Overview
- ◆ Facility Reports
- ◆ Operator Requirements
- ◆ Verified Diesel Emission Control Strategies (VDECS)
- ◆ Registering TRUs with ARB and Operator Reports
- ◆ Enforcement – what to expect
- ◆ Further Information/Advisories/TRU Help Line



2

- Here's an overview of what is covered in this slide tutorial.
- First, some terminology and background or history related to this regulation is provided.
- Then, an overview of the TRU ATCM is provided, including the two parts of the regulation – facility reports and operator requirements.
- Some information is included about verified diesel emission control devices, or VDECS, that can be used to retrofit TRUs.
- TRU registration and Operator reports are discussed.
- Several slides discuss what affected parties can expect in the enforcement of this regulation.
- The last slide covers where you can find further information, such as compliance assistance materials and TRU Advisories, and the TRU Help Line, in case you have questions.

What is a TRU/TRU Generator Set?

- ♦ TRU stands for transport refrigeration unit
- ♦ A TRU is a refrigeration system that is powered by a diesel engine that is used in the transport of perishable goods
- ♦ TRU generator sets that provide electric power to refrigerated shipping containers are also affected by this regulation
- ♦ Unless otherwise noted, all references to TRUs also include TRU generator sets

3

Before we get started, let's cover some terminology and make sure we understand what a TRU is and isn't.

TRU is an abbreviation for transport refrigeration unit.

For the purposes of this regulation, a TRU is a refrigeration system that is powered by a diesel engine used in the transport of perishable goods.

TRU generator sets are designed and used to provide electric power to electrically driven refrigeration units of any kind. This includes, but is not limited to gen sets that provide electricity to electrically powered refrigeration systems for ocean-going shipping containers.

The TRU ATCM applies to both TRUs and TRU generator sets, so unless otherwise noted, all references to TRUs will also include TRU generator sets.

What is a TRU/TRU Genset?



Trailer TRU



Pin-On
TRU Gen Set



Under-Slung
TRU Gen Set

4

The picture on the left is a TRU with the housing skin removed. Note the engine on the lower right and the refrigeration unit on the lower left of this picture.

The picture in the middle shows a TRU generator set mounted on an ocean-going shipping container.

The picture on the right shows a white under-slung TRU generator set mounted under the yellow frame of a trailer chassis (just to the right of the trailer wheels).

What is NOT a TRU?

- ◆ Refrigeration systems that do not have an integral internal combustion engine are not TRUs:
 - Small delivery vans where the refrigeration compressor is belt-driven off the vehicle's engine
 - Electrically driven refrigeration systems on ocean-going shipping containers

5

If a refrigeration system is powered off the vehicle engine, it is not a TRU, as defined in the TRU ATCM. This type of system does not have its own integral engine powering the refrigeration system, so it would not be a TRU. An example of this is small delivery van.

Similarly, an ocean-going shipping container with no integral internal combustion engine – one that is electrically powered by ship-power when at sea and shore-power when at the port – would not be a TRU.

What is NOT a TRU?



Ocean-Going Shipping Container



Shipping Container with TRU Gen Set

6

The picture on the left shows an ocean-going refrigerated shipping container with no generator set.

The picture on the right shows an ocean-going shipping container with a generator set pinned on above the refrigeration system. Again, the refrigerated shipping container itself is not subject to the TRU ATCM, but the TRU gen set is subject to the regulation.

Background



- ◆ Diesel PM identified as a toxic air contaminant in 1998
- ◆ Diesel Risk Reduction Plan approved 2000
- ◆ TRU ATCM adopted February 2004
- ◆ Effective December 2004
- ◆ Requested U.S. EPA waiver, March 2005
 - Approved January 9, 2009
 - EPA published notice in Federal Register January 16, 2009

7

This slide provides some background information:

- State law requires ARB to assess the need for, and the appropriate degree of control to reduce the public's exposure to toxic air contaminants (TAC).
- In 1998, diesel particulate matter (or PM) was identified as a TAC. If you are interested in the process that was used in making this determination and the science behind the public health risk due to diesel PM, a website you can visit is:
<http://www.arb.ca.gov/toxics/dieseltac/dieseltac.htm>.
- Because of its potency and the large amount of diesel emissions in California's air, diesel PM is the number one contributor to adverse health effects of any TACs known today.
- The ARB adopted the Diesel Risk Reduction Plan in 2000, which included an element to develop a regulation to reduce diesel PM from TRUs.
- The TRU ATCM was adopted by the Board in February 2004, and approved by the Office of Administrative Law in December 2004.
- ARB submitted a waiver application to the U.S. Environmental Protection Agency (EPA) in March of 2005. EPA approved the waiver on January 9, 2009 and published a notice about the approval in the Federal Register on January 16, 2009.

TRU ATCM

- ♦ Two parts to regulation
 - Facility reporting requirements
 - **Past due, as of 1-31-2006 (“one-time” report)**
 - Compliance assistance materials on TRU website
 - “How Do I Comply with the TRU ATCM?”
 - “Frequently Asked Questions and Guidelines”
 - Owner/operator requirements
 - **Beginning 12-31-08**
- ♦ The applicability criteria for the facility report and owner/operator requirements are different

8

- The next few slides provide an overview of the TRU ATCM.
- There are 2 parts to this regulation:
 - The facility reporting requirements: These “one-time” reports were due January 31, 2006, so they’re past due now. ARB enforcement staff have been actively enforcing all of the diesel-related regulations, including refrigerated facilities that are late in reporting. These slides do not go into much depth on the facility reporting requirements since they are past due. There are compliance assistance materials on the TRU website that cover this in detail. Please see:
 - “How Do I Comply with the TRU ATCM”
 - “Frequently Asked Questions and Guidelines for Compliance”
 - The operator requirements are now being phased in and are the main focus of these slides. The first compliance date was December 31, 2008 for TRU engine model years 2001 and older (enforcement begins July 17, 2009, following a six-month grace period from the U.S. EPA authorization decision).
- The applicability criteria for the facility report are unrelated to the applicability criteria for the operator requirements.
 - Just because a TRU operator didn’t have to submit facility reports does not mean they don’t have to comply with operator requirements. There are different applicability criteria for these two parts and for the elements within the owner/operator requirements. Please pay very close attention to this.

Facility Reports

- ◆ Applies to “large” distribution centers in California where TRUs operate under facility control:
 - “Large” is 20 or more loading spaces serving cold storage areas (refrigerated and frozen)
 - Facility control is defined as:
 - TRUs owned or leased by facility, parent company, affiliate, or subsidiary, OR
 - Under contract to provide carrier service to the facility, AND
 - TRUs arrival, departure, loading, unloading, shipping and/or receiving of cargo is determined by the facility, parent company, affiliate, or subsidiary
 - Perishable goods are loaded and unloaded for distribution

9

- The Facility Report requirements only applied to “large” facilities where TRUs operate under facility control:
- A “large” facility is defined as 20 or more loading dock spaces serving cold storage areas. This count includes both refrigerated and frozen storage areas. This count also includes doors serving dry storage if there is easy access between the dry side and cold side of the warehouse, such as a “quick door”, so that cold goods can be loaded onto trucks or trailers docked at the dry side dock spaces.
- Facility control is defined as TRUs or TRU gen sets located at the facility that are owned or leased by the facility, its parent company, affiliate, or a subsidiary, or under contract for the purpose of providing carrier service to the facility, and the TRUs' or TRU gen sets' arrival, departure, loading, unloading, shipping and/or receiving of cargo is determined by the facility, parent company, affiliate, or subsidiary (e.g. scheduled receiving, dispatched shipments).
- Note that Facility Report applicability is different from the operator requirements applicability. TRU owners that were not subject to the Facility Report requirements may be subject to the operator requirements.

Facility Reports (cont'd)

- ◆ One time facility report was due January 31, 2006
- ◆ Required reporting of
 - Facility information
 - TRU activities and inventory
 - Recordkeeping required to support reported values
- ◆ **Fines for late reporting**
- ◆ **Fines for falsified reports**



- Again, a one-time facility report was due on January 31, 2006.
- The facility reports included facility information, data on TRU activity, and the numbers of TRUs under the facility's control.
- Most of the information is readily available from most facilities, for example:
 - Number of inbound and outbound loads
 - Number of hours of TRU engine operation (annual total on-road and at-facility)
- The biggest exception is information related to the number of hours of TRU operation that occurs at the facility.
 - Recordkeeping systems may be needed to generate this data. See "Frequently Asked Questions and Guidelines for Compliance", section III, for more details.
 - Records must be available for inspector review to support all reported values and these records must be retained for three years.
- Fines for delinquent reports are up to \$1,000 per day.
- Fines for falsified reports may be up to \$35,000.

Owner/Operator Applicability

- In-use performance standards
 - Applies to owners and operators of ALL TRUs and TRU gen sets that operate in California
 - Includes TRUs based out-of-state, that operate in California (including those coming in from Mexico)
- ARB I.D. number (IDN)
 - Applies to TRU owners/operators of California-based TRUs
 - Out-of-state TRUs – IDN is voluntary
- Operator reports
 - Applies to operators of California-based TRUs

11

Note that Owner/Operator applicability is different from the Facility Report applicability.

- In-use performance standards apply to ALL TRU engines that operate in California. Owners and operators of TRUs are responsible for compliance with the in-use standards.
 - Even the TRUs that are based outside of California must meet these in-use performance standards if they operate in California

In-Use performance standards apply to TRUs coming into California from out-of-state (e.g. TRUs coming from other U.S. states, Canada, and Mexico).
- TRU owners are also required to apply for ARB Identification Numbers (IDN) for ALL California-based TRUs:
 - IDNs are voluntary for TRUs that are based outside of California. Operators with TRUs that are based out-of-state, but come into California regularly, may choose to register their TRUs with ARB to pre-screen the TRU's compliance status and thus reduce inspection times at border crossings, scales, distribution centers, and truck stops.
- TRU operators are required to submit Operator Reports if they operate California-based TRUs.

Key Definitions

- ♦ “**California-Based TRUs**” means TRUs equipped on trucks, trailers, shipping containers, or railcars that a reasonable person would find to be regularly assigned to terminals within California.
- ♦ “**Owner**” means any person that legally holds the title (or its equivalent) showing ownership of a TRU or TRU gen set, excluding a bank or other financial lending institution.
- ♦ “**Operator**” means any person, party or entity that operates a TRU or TRU gen set for the purposes of transporting perishable goods, excluding an employee driver and third party maintenance and repair service.
- ♦ “**Operate**” means to start, cause to function, program the temperature controller, select an operating program or otherwise control, fuel, monitor to assure proper operation, or keep in operation.

12

- Please review the key definitions related to the Owner/Operator requirements, listed in this slide:
 - California-Based TRUs
 - Owner
 - Operator
 - Operate

Key Definitions (cont'd)

- ♦ “**Owner/Operator**” means a requirement applies to the owner and/or operator of a TRU or TRU gen set, as determined by agreement or contract between the parties if the two are separate business entities.
- ♦ “**Terminal**” means any place where a TRU or TRU gen set equipped truck, trailer, shipping container, railcar or TRU gen set is regularly garaged, maintained, operated, or dispatched from, including a dispatch office, cross-dock facility, maintenance shop, business, or private residence.

13

- Please review the key definitions related to the Owner/Operator requirements, listed in this slide:
 - Owner/Operator
 - Terminal

Owner/Operator Requirements

Requirements apply to TRU engines and TRU generator set engines

- ♦ Engines must meet in-use performance standards
 - Standards vary by model year and horsepower (see later slide)
- ♦ ARB I.D. number (IDN)
 - Apply for IDN by March 16, 2009 (delayed)
 - Register on ARB's Equipment Registration (ARBER) system
 - ARB issues unique IDN for each TRU
 - Applications include owner information, TRU (unit) and engine information, compliance status, and how compliance was achieved - see Advisory 08-06
 - Owner must affix IDN on both sides of TRU housing within 30 days
 - Updates within 30 days of information changes
- ♦ Operator reports
 - First report due to ARBER by March 16, 2009 (delayed)
 - Report California terminal address, contact information, and all IDNs assigned to terminal
 - Updates within 30 days of information changes

14

The TRU owner/operator requirements apply to both TRUs and TRU generator sets (or “gensets”), so any reference to TRUs includes TRU gensets, unless otherwise specified.

•The owner/operator requirements include:

- TRU engines must meet in-use performance standards (subsequent slides provide more detail).
- ARB ID number applications are due March 16, 2009 (delayed from the deadline in the regulation).

Owners must register TRUs in ARB's Equipment Registration (ARBER) system.

ARB will issue a unique IDN for each TRU.

- IDN applications include TRU owner information, TRU unit information, TRU engine information, compliance status with the in-use performance standards, and how compliance was achieved. TRU Advisory 08-06 explains what information is needed.
- IDNs must be painted or affixed to the TRU housing within 30 days of being issued by ARB. TRU Advisory 08-06 explains this in more detail.
- Initial Operator Reports are due to ARBER by March 16, 2009 (delayed from the deadline in the regulation).

TRU operators must report where their California terminals are located, provide contact information, and list all of the TRU IDNs that are assigned to these terminals.

- Updates are required for both IDN information and Operator Reports within 30 days of any changes in the information that was submitted.

Electronic Submittals - ARBER

- ♦ Go to the ARBER website:
<http://www.arb.ca.gov/arber/arber.htm>
- ♦ Help pages describe each entry and provide instructions (see links on the left navigation bar)
- ♦ Make sure your computer and internet browser meet the ARBER system requirements
- ♦ Click on the “ARBER Login” link
- ♦ Fill out electronic forms
 - Company Profile
 - Model Information
 - Compliance Information
- ♦ Submit
- ♦ Certify the submittal
 - Sign and mail to ARB

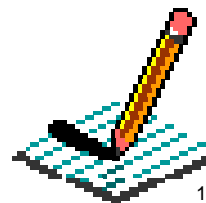


Owners can apply for ARB IDNs and submit Operator Reports on-line, via the Internet:

- Go to the ARBER website: <http://www.arb.ca.gov/arber/arber.htm>
- Instructions are included in the **TRU Help Pages** (see links in the left navigation bar):
 - Company Profile
 - Model Information
 - Compliance Information
 - Operator Reports
- Review the ARBER system requirements and make sure your computer and Internet browser meet these requirements: <http://www.arb.ca.gov/arber/registration.htm>.
(Hint: make sure your browser is updated to the latest version.)
- Click on the “ARBER Login” link and establish your user profile.
- Fill out electronic forms for the IDN application:
 - Company Profile
 - Model Information
 - Compliance Information
- Submit each of these forms.
- Check your inputs on the Certification Page.
 - Print out the Certification Page.
 - Sign the Certification Page.
 - Make a copy for your records.
 - Mail the signed Certification Page to ARB (address shown on the page).
- Fill out the electronic forms for the Operator Report

Manual Form Submittal

- ♦ Download manual forms from the TRU website at: <http://www.arb.ca.gov/diesel/tru.htm>
 - Click on the link for “ARBER TRU IDN Manual Application”
 - Print out and review the instructions
 - Click on the links for the two forms:
 - Equipment Registration Form: TRU-REG (#29)
 - Model-Engine-Compliance Form: TRU-MEC (#30)
 - Fill out the forms and mail to ARB (address on forms)
 - It may take up to 60 days to get IDNs using the manual forms
 - Click on the link for “TRU Operator Report and Terminal Information Help Page”
 - Print out and review the instructions
 - Click on the links for the two forms:
 - Operator Report Form: TRU-OR (#33)
 - Terminal Information Form: TRU-TI (#34)
 - Fill out the forms and mail to ARB (address on forms)



16

- Manual forms for IDN applications and Operator Reports can be downloaded from the TRU website at: <http://www.arb.ca.gov/diesel/tru.htm>. Owners need to be aware that it may take up to 60 days to get IDNs using the manual form method, which may delay the owner's ability to submit the Operator Report. Therefore, electronic submittals through the ARBER website (see previous slide) are preferred, since IDNs can be issued instantaneously if the application is complete.
- At the TRU website, click on the link for “ARBER TRU IDN Manual Application” (includes detailed instructions)
 - Print out and review the step-by-step instructions.
 - Table 1 of the instructions describes each of the entries on the forms.
 - Click on the links in the instructions for the two forms that must be submitted:
 1. “Equipment Registration Form”: TRU-REG (#29)
 2. “Model-Engine-Compliance Information Form”: TRU-MEC (#30) – one for each TRU
 - Fill out the forms per the instructions and mail them to ARB at the address provided on the forms.
- At the TRU website, click on the link for “TRU Operator Report and Terminal Information Help Page” (includes detailed instructions)
 - Print out and review the step-by-step instructions.
 - Tables 1 and 2 of the instructions describe each of the entries on the forms.
 - Click on the links in the instructions for the two forms that must be submitted:
 1. “Operator Report Form”: TRU-OR (#33)
 2. “Terminal Information Form”: TRU-TI (#34) – one for each terminal
 - Fill out the forms per the instructions and mail them to ARB at the address provided on the forms.
- Alternatively, owners/operators that do not have Internet access may call the TRU Help Line and request these forms and instructions to be mailed to them.

Owner/Operator Requirements

- ◆ Unique IDNs are issued to the owner by ARB for each TRU
- ◆ The owner is responsible for permanently painting or affixing IDNs to each side of the TRU housing within 30 days of the IDN being issued:
 - Two exceptions are refrigerated railcars and TRU gensets (see TRU Advisory 80-03_R2).
 - The IDN numbers must be preceded by the letters “ARB” (e.g. ARB 012345678)
 - The color of the letters and numbers must contrast sharply with the background color
 - The size of the letters and numbers must be such that they can be read during daylight hours from a distance of 50 feet while the unit is stationary
 - Markings shall be maintained in a legible condition

17

As mentioned earlier, IDNs are issued to the owner by ARB and each TRU has a unique IDN.

- The owner is then required to permanently affix the IDN to both sides of the TRU housing within 30 days of the IDN being issued.
 - There are two exceptions to this: unique railcar reporting marks and TRU generator set BIC codes may be used instead of the ARB-issued IDN. The TRU owner must still apply to ARB for an IDN and must still use the IDN in their Operator Report. See TRU Advisory 08-03_R2.
- The regulation includes lettering specifications for painting or affixing IDN labels to the TRU housing:
 - The nine-digit IDN must be preceded by the letters “ARB”.
For example: ARB 012345678
 - The numbers and letters must contrast sharply in color with the color of the background surface.
 - Letters and numbers must be legible and of sufficient size to be read from a distance of 50 feet during daylight hours while the unit is stationary. This can be accomplished with at least 2 inch high letter/number with ¼ inch thick character outlines.
 - Markings must be maintained in a legible condition to meet the above requirements.

In-Use Performance Standards

Less than 25 hp TRU/TRU Generator Set Engines

In-Use Performance Standard	Requirement
LETRU	Use 0.30 g/hp-hr engine or Level 2 VDECS retrofit
ULETRU	Level 3 VDECS retrofit or Alternative Technology

Greater than 25 HP TRU/TRU Generator Set Engines

In-Use Performance Standard	Requirement
LETRU	Use 0.22 g/hp-hr engine or Level 2 VDECS retrofit
ULETRU	Use 0.02 g/hp-hr engine, Level 3 VDECS retrofit, or Alternative Technology

LETRU = Low-Emission TRU In-Use Performance Standard

ULETRU = Ultra-Low-Emission TRU In-Use Performance Standard

VDECS = Verified Diesel Emission Control Strategy

Alternative Technology = ULETRU (and LETRU) if diesel PM emissions are eliminated at distribution centers and limited at delivery point facilities.

18

- The important points to take from this slide are:
 - In-use performance standards vary by horsepower,
 - There are two levels of stringency:
 - ❑ LETRU (Low-Emission TRU)
 - ❑ ULETRU (Ultra-Low-Emission TRU)
 - There are compliance options for meeting the in-use performance standards
 - ❑ Retrofit with the required level of VDECS
 - ❑ Use an engine that has been certified to meet an emissions limit (without deterioration).
- The top table shows the in-use performance standards for less than 25 hp TRU engines.
- The lower table shows the in-use performance standards for 25 hp and greater TRU engines.
- Alternative Technologies may also be used to meet ULETRU (and LETRU), but to qualify, TRU diesel PM emissions must be eliminated at distribution centers and limited at delivery point facilities. There will be more about this in a later slide.

In-Use Performance Standards Compliance Schedule

Engine Model Year	In-Use Compliance Standard Compliance Date	
	LETRU	ULETRU
2001 and older	December 31, 2008	December 31, 2015
2002	December 31, 2009	December 31, 2016
2003	Does Not Apply	December 31, 2010
2004	Does Not Apply	December 31, 2011
2005	Does Not Apply	December 31, 2012
2006	Does Not Apply	December 31, 2013
2007	Does Not Apply	December 31, 2014
2008	Does Not Apply	December 31, 2015
2009	Does Not Apply	December 31, 2016
2010	Does Not Apply	December 31, 2017
2011	Does Not Apply	December 31, 2018
2012	Does Not Apply	December 31, 2019
2013	Does Not Apply	December 31, 2020
2014	Does Not Apply	December 31, 2021

Generally, the compliance date is December 31st of model year plus 7 years.
See TRU Advisory 08-01_R1 for exception allowing use of TRU model year.

19

This table shows that compliance dates are phased in, based on the engine model year.

- Looking at the first row, you can see that model year 2001 and older engines must comply with LETRU by the end of 2008. ARB is delaying enforcement of this first compliance date until six months after authorization approval was received from the U.S. Environmental Protection Agency. So enforcement begins July 17, 2009.
 - Then, these same model years, if they are still in use, must comply with the more stringent ULETRU in-use standard by the end of 2015.
- On the second row, you can see that model year 2002 must comply with LETRU by the end of 2009. There will be no grace period for this compliance date or any other in-use performance standard compliance dates.
 - Then, model year 2002 engines, if they are still in use, must comply with ULETRU by the end of 2016, 7 years after meeting LETRU.
- 2003 and subsequent model years skip LETRU and must comply with ULETRU by the end of the 7th year after the engine model year (again, no grace period will be provided).
 - So, model year 2003 engines would have to meet ULETRU by December 31, 2010.
 - Model year 2004 engines would have to meet ULETRU by December 31, 2011.
 - And this pattern continues until new engines are equipped with a diesel particulate filter that reduces diesel particulate matter by at least 85 percent (meets 0.02 grams per hp-hour emission level).
- You can see from this table that all in-use TRU engines must eventually comply with ULETRU in order to operate legally in California.
- The model year is displayed on the engine label, which is typically located on the valve cover or oil pan. If there is no engine label, it's usually because it is older than a Tier 1 engine. Tier 1 started in 1999 for 25 to 50 hp engines and year 2000 for less than 25 hp engines. The engine serial number may also be used to determine the model year of the engine. Ask your TRU dealer for help in determining the model year of the engine if you can't find or read the engine label or serial number.
- The engine model year is used to determine the compliance date for the in-use performance standards, except in the case where the unit model year is only one year later. Then the unit model year or manufacture year may be used to determine the compliance date(s). If the difference between engine model year and unit model year is more than one year, then the engine model year must be used. See TRU Advisory 08-01_R1.

Compliance Options for Meeting In-Use Performance Standards

- ◆ Replace in-use engine with new or newer engine
 - **Only** resets the compliance clock to the replacement engine model year plus 7 years
- ◆ Replace in-use engine with a rebuilt/remanufactured engine that meets a cleaner certified emissions configuration
 - See TRU advisory 08-05 for details
- ◆ Retrofit with required level of VDECS
- ◆ Use Alternative Technology
 - Must eliminate diesel engine emissions from the TRU engine at all facilities it visits, with narrow exceptions

20

There are several ways to comply with the in-use performance standards.

- One compliance strategy is to use a TRU with an engine that is newer than 7 years old. Some fleets are complying by replacing older TRUs with new or newer TRUs.
- Similarly, the owner may choose to replace an in-use engine with a new or newer engine. This **only** resets the compliance clock for meeting the in-use performance standards to 7 years after the new engine model year.
- Old engines may be remanufactured to more stringent emissions standards, provided all of the parts used are a “matched set” of parts from a configuration that has been certified to meet the more stringent emissions standard. A supplemental label must be permanently affixed in a visible area of the engine that includes the year of the rebuild and the emissions standard being met. This **only** resets the compliance clock to 7 years after the **effective model year** of the certified configuration, which may not be the same as the rebuild date. Because of this, rebuilt engines may not provide 7 full years of compliance from the rebuild date. See TRU Advisory 08-05 at the TRU website for more details.
- Retrofitting with the required level of VDECS is another compliance option:
 - Use a Level 2 VDECS for meeting LETRU or
 - Use a Level 3 VDECS for meeting ULETRU.
- Using Alternative Technology is another compliance option. The key to using an Alternative Technology is that it must eliminate the use of the TRU engine (or the emissions of diesel PM) while it is at a distribution facility. There will be more on this in a later slide.

Verified Diesel Emission Control Strategies (VDECS) for TRUs

- ♦ VDECS' Executive Order (EO)
 - VDECS are verified for specific engine models and model years
 - Read the EO and VDECS owners manual before buying
 - Specific conditions may apply
- ♦ Enforcement issue
 - If not matched to right engines and installed appropriately, then DECS is not verified and installation is illegal

21

As previously discussed, retrofitting with the required level of VDECS is a compliance option.

- Proper selection of VDECS requires due diligence by the TRU owner to ensure the VDECS was verified for use on the TRU engine make, model, model year and operating conditions.
- Read the Executive Order that ARB issued when the verification was approved and carefully review the VDECS owners manual before you buy it to be sure the VDECS is matched correctly to your TRU engine.
- To be considered “verified,” a DECS must be matched with the correct engine model and model year engine, and used under the operating conditions for which it was verified.
- Talk to the VDECS manufacturer or their representative to correctly match your engine with a VDECS.
- ARB inspectors will look to be sure the retrofitted devices are truly verified and matched with the correct engine.

Alternative Technologies

- ♦ Electric standby or hybrid electric/diesel
 - To qualify, TRU engines must not operate at distribution centers - diesel emissions at facilities must be eliminated
 - Must plug in at any delivery point where more than 2 TRUs present or delivery takes more than 30 minutes
 - Records required to demonstrate compliance
 - See TRU Advisory 08-02 at the TRU website for more details
- ♦ Cryogenic temperature control
 - Hybrid cryogenic-diesel – records required to demonstrate compliance (TRU engine operation at DCs is eliminated)
 - See TRU Advisory 08-13 at the TRU website for more details
- ♦ Alternative diesel fuel (e.g. 100% biodiesel)
 - Must be verified as in-use compliance strategy – **NOT COMPLETED AT THIS TIME**
 - Records required to show exclusive use of these fuels
 - See TRU Advisory 08-08 at the TRU website for more details
- ♦ Qualifying Alternative Technologies meet LETRU and ULETRU

22

- Alternative technologies must be used in such a way as to eliminate the TRU engine operation while at a distribution center or eliminate diesel particulate matter emissions.
- If you choose electric standby as your compliance option for a TRU you must be careful to ensure that your operations actually qualify for compliance:
 - The TRU engine can't operate at any facility. There are limited exceptions to this:
 1. TRU engine operations that are related to normal ingress and egress (e.g. engine operation during normal movements around the yard) at the distribution center are allowed.
 2. TRU engine operations that are related to repair and maintenance are exempt.
 3. TRU engine operation at drop-off points is allowed, provided there are no more than 2 TRUs there at one time **and** the stay does not exceed 30 minutes.
 - Recordkeeping is required with the use of electric standby. The operator must demonstrate TRU engine use is eliminated at the distribution center or limited at drop-off points.
 - See TRU Advisory 08-02 for more details.
- Cryogenic refrigeration systems would also require recordkeeping if they are of the hybrid type, where there is a diesel engine that can be used when on the road. Records need to demonstrate diesel TRU engine use is eliminated at distribution centers and delivery points. See TRU Advisory 08-13 for more details.
- Alternative diesel fuels must be verified as a VDECS before they can be used as a compliance strategy. This has not been completed; therefore, BIODIESEL AND GTL SYNTHETIC DIESEL FUEL ARE NOT COMPLIANCE OPTIONS at this time. See TRU Advisories 08-08 and 08-14 for more details.
- Keep in mind that qualifying Alternative Technologies can meet both LETRU and ULETRU.

Enforcement

- ◆ ARB implementation and enforcement
 - Beginning July 17, 2009
 - Inspections at border crossings, scales, roadside, terminals, distribution centers, and delivery points
 - Operator - fines up to \$40,000/day (per California Health and Safety Code)



23

- Beginning July 17, 2009, inspections of TRUs will take place at border crossings, scales, and roadside inspections, distribution centers, terminals, and delivery points. Essentially, anywhere TRUs operate, inspectors may check for compliance.
- Fines can be up to \$40,000 per day per violation or 1 year in jail **or both** (per California Health and Safety Code)
- ARB plans to aggressively enforce this regulation.

Enforcement (cont'd)

- ◆ ARB Identification Number (IDN) database
 - Compliance information provided in IDN application
- ◆ Inspectors will access the database using the IDN or other identifying numbers to check compliance status
- ◆ Inspectors will have to open the TRU housing doors to inspect for compliance if no IDN – much more delay for the driver
- ◆ Field inspection check-lists

24

- IDN applications include information about how the unit came into compliance (if the compliance date has passed for the unit's model year).
- IDN application information will populate the ARBER database with information about the compliance status.
- Field inspectors will access ARBER data by entering an IDN to view the compliance status.
- California-based TRUs are required to have IDNs. Inspectors will look for California-based units with no IDN and a ticket will be issued to the driver for any violations. As mentioned earlier, the TRU owner is responsible for the IDN.
- TRUs that are based out-of-state aren't required to have IDNs. On out-of-state units, inspectors ask the driver to open the TRU housing to check compliance. This will take more time than using an IDN. Fleets that come into California frequently are likely to be interested in getting an IDN to speed up the inspection process. Therefore, out-of-state TRU owners may voluntarily apply for IDNs. There are no fees for IDNs at this time.
- As mentioned earlier, the TRU owner is responsible for compliance with the in-use performance standards.
- Inspectors will fill out electronic check-lists on their hand-held computers.

Enforcement (cont'd)

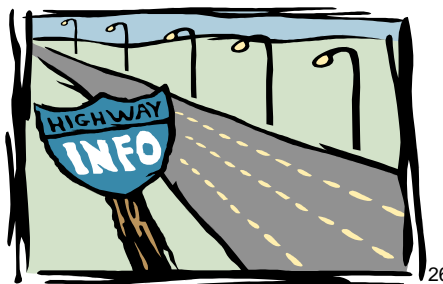
- ◆ Comprehensive audits at:
 - Carrier terminals
 - Distribution centers
- ◆ Review records, check accuracy
- ◆ Inspections resulting from:
 - Complaints
 - Tips from public
 - Leads from staff
- ◆ Plan to comply early



- More comprehensive audits will take place at carrier terminals and distribution centers. In addition to checking for compliance with IDNs and in-use performance standards, inspectors will audit operator reports to ensure they are up to date and the information is true and correct.
- As mentioned earlier, the operator is responsible for the accuracy of the IDN information and operator report information. Revisions to the IDN and Operator Report information are required within 30 days of any changes to this information.
- Some inspections at terminals and DCs will be in response to complaints, tips from the public, and leads from office staff.
- Early compliance is recommended.

Further Information/Contacts

- ♦ TRU website: <http://www.arb.ca.gov/diesel/tru.htm>
 - Advisories – click on link in left navigation bar
- ♦ ARBER website: <http://www.arb.ca.gov/arber/arber.htm>
- ♦ Verification website (Mfr info & Executive Orders):
<http://www.arb.ca.gov/diesel/verdev/vt/vt.htm>
- ♦ TRU List Serve: <http://www.arb.ca.gov/listserv/tru.htm>
- ♦ Toll-Free TRU Help Line
 - 1-888-878-2826
(1-888-TRU-ATCM)
- ♦ Complaint Hotline:
 - 1-800-952-5588



- If you need more detailed information, we have a TRU website that provides compliance assistance materials and lists VDECS for TRUs. The web address is shown in this slide. Documents include:
 - TRU ATCM Status Update
 - “How Do I Comply with the TRU ATCM”
 - “Frequently Asked Questions and Guidelines for Compliance”
 - TRU Brochures #1 and #2 (in English and Español)
 - Final Regulation Order
 - Advisories
- ARB Equipment Registration (ARBER) system website is where electronic on-line registration of TRUs can be completed to apply for ARB IDNs and submit Operator Reports.
- The Verification Website is listed – this is where you’ll find the VDECS Executive Orders.
- Sign up for the TRU Listserve so that you are emailed notices related to TRU ATCM compliance.
 - Start at the TRU website, scroll down and click on the link for “TRU List Serve”.
 - Enter your email address twice.
- If you have further questions, call us at ARB’s toll-free TRU help line:
1-888-878-2826 (1-888-TRU-ATCM.)
- ARB’s General Complaint Hotline is at 1-800-952-5588.